CLAIMS

1. (Currently Amended) A method for custom manufacturing decorative, cast stonework, comprising:

selecting an architectural picture from a plurality of architectural pictures, the architectural picture showing at least a plurality of units, each unit identifying an architectural feature;

selecting a unit of the plurality of units, the unit comprising:

a plurality of parts;

at least one parametric equation having at least one control dimension as an input, the parametric equation defining at least one physical dimension of the plurality of parts and at least one arrangement of the plurality of parts, wherein:

the at least one physical dimension comprises at least one measurement of the architectural feature;

the at least one physical dimension determines a relative size of at least two parts of the plurality of parts;

the at least one arrangement determines a relative position of at least two parts of the plurality of parts; and

the at least one physical dimension and the at least one arrangement determine at least a two-dimensional view of the unit in a first spatial dimension and a second spatial dimension;

varying the at least one control dimension;

in response to the varying the at least one control dimension, parametrically calculating, using the at least one parametric equation, at least the physical dimension and the arrangement, thereby defining a custom unit identifying a custom architectural feature;

selecting at least one profile of a plurality of profiles for at least one part of the custom unit, the at least one profile determining at least a two-dimensional view of the at least one part in a third spatial dimension and one of the first and second spatial dimensions, the third spatial dimension distinct from the first and second spatial dimensions;

generating a drawing of the custom unit;

~~receiving an order, wherein the order at least comprises one drawing, and wherein the at least one drawing at least comprises at least one part of a plurality of parts that comprise a unit;~~

storing the [[order]]drawing; and

for each part of the plurality of parts:

referencing the ~~at least one first~~ part to a database of ~~units and~~ parts, wherein [[the]]a ~~least one first~~ part ~~number~~identifier is associated with the ~~at least one first~~ part;

determining if a suitable unused part of a plurality of unused parts exists within an inventory of unused parts by an associated part identifier, wherein each unused part of the plurality unused parts have part identifiers associated therewith;

if a suitable unused part exists in the inventory of unused parts, then selecting the suitable unused part for the assembly of the custom architectural feature identified by the custom unit;

if no suitable part exists in the inventory of unused parts, then:

determining if a mold for the ~~at least one~~ part exists in an inventory of molds;

if no mold exists in the inventory of molds, then manufacturing or buying a mold for the ~~at least one first~~ part;

if a mold exists in the inventory of molds, then determining if the mold is available and waiting for the mold to become available if the mold is unavailable;

retrieving the mold, once available, manufactured, or bought; ~~and~~

casting the ~~at least one first~~ part with the mold that has been retrieved; and

selecting the cast part for the assembly of the custom architectural feature identified by the custom unit.

2. (Currently Amended) The method of Claim 1, wherein the step of determining if a suitable unused part of the plurality of unused parts exists within the inventory of unused parts further comprises:

searching part identifiers associated with each of the unused parts of the plurality of unused parts for a part identifier that at least matches the ~~at least one first~~ part identifier associated with the ~~at least one first~~ part to determine if the suitable part identifier exists within the inventory of unused parts;

determining if the suitable unused part has correct dimensions; and

if the suitable unused part is too large, then cutting the suitable unused part to the correct dimensions.

3. (Previously Presented) The method of Claim 1, wherein the step of determining if the mold is available further comprises:

retrieving a schedule of use for the mold; and

determining periods of time when the mold is in use for other projects.

4. (Cancelled)

5. (Currently Amended) A computer program product for custom manufacturing decorative, cast stonework, the computer program product having a medium with a computer program embodied thereon, the computer program comprising:

computer code for selecting an architectural picture from a plurality of architectural pictures, the architectural picture showing at least a plurality of units, each unit identifying an architectural feature;

computer code for selecting a unit of the plurality of units, the unit comprising:

a plurality of parts;

at least one parametric equation having at least one control dimension as an input, the parametric equation defining at least one physical dimension of the plurality of parts and at least one arrangement of the plurality of parts, wherein:

the at least one physical dimension comprises at least one measurement of the architectural feature;

the at least one physical dimension determines a relative size of at least two parts of the plurality of parts;

the at least one arrangement determines a relative position of at least two parts of the plurality of parts; and

the at least one physical dimension and the at least one arrangement determine at least a two-dimensional view of the unit in a first spatial dimension and a second spatial dimension;

computer code for varying the at least one control dimension;

computer code for, in response to the varying the at least one control dimension, parametrically calculating, using the at least one parametric equation, at least the physical dimension and the arrangement, thereby defining a custom unit identifying a custom architectural feature;

computer code for selecting at least one profile of a plurality of profiles for at least one part of the custom unit, the at least one profile determining at least a two-dimensional view of the at least one part in a third spatial dimension and one of the first and second spatial dimensions, the third spatial dimension distinct from the first and second spatial dimensions;

computer code for generating a drawing of the custom unit;

~~computer code for receiving an order, wherein the order at least comprises one drawing, and wherein the at least one drawing at least comprises at least one part of a plurality of parts that comprise a unit;~~

computer code for storing the [[order]]drawing; and

for each part of the plurality of parts:

computer code for referencing the ~~at least one first~~ part to a database of ~~units and~~ parts, wherein [[the]]a ~~least one first~~ part ~~number~~identifier is associated with the ~~at least one first~~ part;

computer code for determining if a suitable unused part of a plurality of unused parts exists within an inventory of unused parts by an associated part identifier, wherein each unused part of the plurality unused parts have part identifiers associated therewith;

if a suitable unused part exists in the inventory of unused parts, then computer code for selecting the suitable unused part for the assembly of the custom architectural feature identified by the custom unit;

if no suitable part exists in the inventory of unused parts, then;

computer code for determining if a mold for the ~~at least one~~ part exists in an inventory of molds;

if no mold exists in the inventory of molds, then computer code for manufacturing or computer code for buying a mold for the ~~at least one first~~ part;

if a mold exists in the inventory of molds, then computer code for determining if the mold is available and computer code for waiting for the mold to become available if the mold is unavailable;

computer code for retrieving the mold, once available, manufactured, or bought; ~~and~~

computer code for casting the ~~at least one first~~ part with the mold that has been retrieved; and

computer code for selecting the cast part for the assembly of the custom architectural feature identified by the custom unit.

6. (Currently Amended) The computer program product of Claim 5, wherein the computer code for determining if a suitable unused part of the plurality of unused parts exists within the inventory of unused parts further comprises:

computer code for searching part identifiers associated with each of the unused parts of the plurality of unused parts for a part identifier that at least matches the ~~at least one first~~ part identifier associated with the ~~at least one first~~ part to determine if the suitable part identifier exists within the inventory of unused parts;

computer code for determining if the suitable unused part has correct dimensions; and

if the suitable unused part is too large, then computer code for cutting the suitable unused part to the correct dimensions.

7. (Previously Presented) The computer program product of Claim 5, wherein the computer code for determining if the mold is available further comprises:

computer code for retrieving a schedule of use for the mold; and

computer code for determining periods of time when the mold is in use for other projects.

8. (Cancelled)

9. (Currently Amended) A processor for custom manufacturing decorative, cast stonework, the processor including computer program comprising:

computer code for selecting an architectural picture from a plurality of architectural pictures, the architectural picture showing at least a plurality of units, each unit identifying an architectural feature;

computer code for selecting a unit of the plurality of units, the unit comprising:

a plurality of parts;

at least one parametric equation having at least one control dimension as an input, the parametric equation defining at least one physical dimension of the plurality of parts and at least one arrangement of the plurality of parts, wherein:

the at least one physical dimension comprises at least one measurement of the architectural feature;

the at least one physical dimension determines a relative size of at least two parts of the plurality of parts;

the at least one arrangement determines a relative position of at least two parts of the plurality of parts; and

the at least one physical dimension and the at least one arrangement determine at least a two-dimensional view of the unit in a first spatial dimension and a second spatial dimension;

computer code for varying the at least one control dimension;

computer code for, in response to the varying the at least one control dimension, parametrically calculating, using the at least one parametric equation, at least the physical dimension and the arrangement, thereby defining a custom unit identifying a custom architectural feature;

computer code for selecting at least one profile of a plurality of profiles for at least one part of the custom unit, the at least one profile determining at least a two-dimensional view of the at least one part in a third spatial dimension and one of the first and second spatial dimensions, the third spatial dimension distinct from the first and second spatial dimensions;

computer code for generating a drawing of the custom unit;

~~computer code for receiving an order, wherein the order at least comprises one drawing, and wherein the at least one drawing at least comprises at least one part of a plurality of parts that comprise a unit;~~

computer code for storing the [[order]]drawing; and

for each part of the plurality of parts:

computer code for referencing the ~~at least one first~~ part to a database of ~~units and~~ parts, wherein [[the]]a ~~least one first~~ part ~~number~~identifier is associated with the ~~at least one first~~ part;

computer code for determining if a suitable unused part of a plurality of unused parts exists within an inventory of unused parts by an associated part identifier, wherein each unused part of the plurality unused parts have part identifiers associated therewith;

if a suitable unused part exists in the inventory of unused parts, then computer code for selecting the suitable unused part for the assembly of the custom architectural feature identified by the custom unit;

if no suitable part exists in the inventory of unused parts, then;

computer code for determining if a mold for the ~~at least one~~ part exists in an inventory of molds;

if no mold exists in the inventory of molds, then computer code for manufacturing or computer code for buying a mold for the ~~at least one first~~ part;

if a mold exists in the inventory of molds, then computer code for determining if the mold is available and computer code for waiting for the mold to become available if the mold is unavailable;

computer code for retrieving the mold, once available, manufactured, or bought; ~~and~~

computer code for casting the ~~at least one first~~ part with the mold that has been retrieved; and

computer code for selecting the cast part for the assembly of the custom architectural feature identified by the custom unit.

10. (Currently Amended) The computer code of Claim 9, wherein the computer code for determining if a suitable unused part of the plurality of unused parts exists within the inventory of unused parts further comprises:

computer code for searching part identifiers associated with each of the unused parts of the plurality of unused parts for a part identifier that at least matches the ~~at least one first~~ part identifier associated with the ~~at least one first~~ part to determine if the suitable part identifier exists within the inventory of unused parts;

computer code for determining if the suitable unused part has correct dimensions; and

if the suitable unused part is too large, then computer code for cutting the suitable unused part to the correct dimensions.

11. (Previously Presented) The computer code of Claim 9, wherein the computer code for determining if the mold is available further comprises:

computer code for retrieving a schedule of use for the mold; and

computer code for determining periods of time when the mold is in use for other projects.

12. (Cancelled)

13. (Currently Amended) An apparatus for custom manufacturing decorative, cast stonework, comprising:

means for selecting an architectural picture from a plurality of architectural pictures, the architectural picture showing at least a plurality of units, each unit identifying an architectural feature;

means for selecting a unit of the plurality of units, the unit comprising:

a plurality of parts;

at least one parametric equation having at least one control dimension as an input, the parametric equation defining at least one physical dimension of the plurality of parts and at least one arrangement of the plurality of parts, wherein:

the at least one physical dimension comprises at least one measurement of the architectural feature;

the at least one physical dimension determines a relative size of at least two parts of the plurality of parts;

the at least one arrangement determines a relative position of at least two parts of the plurality of parts; and

the at least one physical dimension and the at least one arrangement determine at least a two-dimensional view of the unit in a first spatial dimension and a second spatial dimension;

means for varying the at least one control dimension;

means for, in response to the varying the at least one control dimension, parametrically calculating, using the at least one parametric equation, at least the physical dimension and the arrangement, thereby defining a custom unit identifying a custom architectural feature;

means for selecting at least one profile of a plurality of profiles for at least one part of the custom unit, the at least one profile determining at least a two-dimensional view of the at least one part in a third spatial dimension and one of the first and second spatial dimensions, the third spatial dimension distinct from the first and second spatial dimensions;

means for generating a drawing of the custom unit;

~~means for receiving an order, wherein the order at least comprises one drawing, and wherein the at least one drawing at least comprises at least one part of a plurality of parts that comprise a unit;~~

means for storing the [[order]]drawing; and

for each part of the plurality of parts:

means for referencing the ~~at least one first~~ part to a database of ~~units and~~ parts, wherein [[the]]a ~~least one first~~ part ~~number~~identifier is associated with the ~~at least one first~~ part;

means for determining if a suitable unused part of a plurality of unused parts exists within an inventory of unused parts by an associated part identifier, wherein each unused part of the plurality unused parts have part identifiers associated therewith;

if a suitable unused part exists in the inventory of unused parts, then means for selecting the suitable unused part for the assembly of the custom architectural feature identified by the custom unit;

if no suitable part exists in the inventory of unused parts, then:

means for determining if a mold for the ~~at least one~~ part exists in an inventory of molds;

if no mold exists in the inventory of molds, then means for manufacturing or means for buying a mold for the ~~at least one first~~ part;

if a mold exists in the inventory of molds, then means for determining if the mold is available and means for waiting for the mold to become available if the mold is unavailable;

means for retrieving the mold, once available, manufactured, or bought; ~~and~~

means for casting the ~~at least one first~~ part with the mold that has been retrieved; and

means for selecting the cast part for the assembly of the custom architectural feature identified by the custom unit.

14. (Currently Amended) The apparatus of Claim 13, wherein the means for determining if a suitable unused part of the plurality of unused parts exists within the inventory of unused parts further comprises:

means for searching part identifiers associated with each of the unused parts of the plurality of unused parts for a part identifier that at least matches the ~~at least one first~~ part identifier associated with the ~~at least one first~~ part to determine if the suitable part identifier exists within the inventory of unused parts;

means for determining if the suitable unused part has correct dimensions; and

if the suitable unused part is too large, then means for cutting the suitable unused part to the correct dimensions.

15. (Previously Presented) The apparatus of Claim 13, wherein the means for determining if the mold is available further comprises:

retrieving a schedule of use for the mold; and

determining periods of time when the mold is in use for other projects.

16. (Cancelled)

17. (New) The method of Claim 1, further comprising assembling the architectural feature identified by the custom unit using the at least one part selected for the assembly of the architectural feature.

18. (New) The method of Claim 1, further comprising:

graphically displaying the two-dimensional view of the unit in the first spatial dimension and the second spatial dimension;

graphically displaying a relationship between the control dimension and the at least one physical dimension of the plurality of parts; and

graphically displaying a relationship between the control dimension and the at least one arrangement of the plurality of parts.

19. (New) The method of Claim 1, further comprising graphically displaying the two-dimensional view of the at least one part of the custom unit in the third spatial dimension and the one of the first and second spatial dimensions.

20. (New) The method of Claim 1, further comprising modifying the at least one part of the custom unit by adding an additional feature to the at least one part.

21. (New) The method of Claim 1, further comprising selecting an offset for the at least one part of the custom unit, the offset comprising an amount of translation of the at least one part in the third spatial dimension from a default backing position.

22. (New) The method of Claim 21, wherein the selecting the offset further comprises graphically displaying the two-dimensional view of the at least one part in the third spatial dimension and the one of the first and second spatial dimensions with the offset relative to the default backing position.

23. (New) The method of Claim 22, wherein the selecting an offset comprises:

determining if the selected offset exceeds an error point, the error point comprising an indication of when an offset causes a feature of the at least one profile to be disturbed or destroyed; and

if the selected offset exceeds the error point, generating a notification that the selected offset exceeds the error point.

24. (New) The method of Claim 1, wherein:

the plurality of parts comprises stonework parts; and

a second unit comprises at least one part in the plurality of parts.